

Date	JD+2440000	ϕ_{421}	ϕ_{16}	Notes on Observations	Ref
21.02.80	4290.56	0.804	0.021	opt. spec., H absorp., weak He II λ 4686 emiss.	1
01.07.80	4421.71	0.116	0.899	opt. spec., H absorp., weak He II λ 4686 emiss.	1
21.08.80	4472	0.235	0.921	IR phot., J=14.45	2
22.08.80	4473	0.238	0.981	IR phot., J=15.02	2
26.09.80	4508.57	0.322	0.118	UV spec., weak or absent emiss.	3
26.09.80	4508.61	0.322	0.120	UV spec., weak or absent emiss.	3
21.11.80	4564	0.454	0.447	IR phot., J=15.03	2
27.12.80	4601	0.542	0.670	opt. phot., B~15	4
28.12.80	4602	0.544	0.730	opt. phot., B~15	4
29.12.80	4603	0.547	0.790	opt. phot., B~15	4
30.12.80	4604	0.549	0.850	opt. spec., B~15, Balmer & He I emiss., absorp. evident	4
31.12.80	4605	0.551	0.910	opt. spec.	4
01.01.81	4606	0.554	0.971	opt. spec., B~14-14.5, emiss. lines dominate, P Cygni profiles, no He II λ 4686	4
02.01.81	4607	0.556	0.031	opt. phot., V=13-13.35	4
02.01.81	4607	0.556	0.031	opt. spec., broad emiss. lines, Balmer lines, He II λ 4686 strongest	4
03.01.81	4608	0.558	0.091	opt. phot., V=14.27-14.34	4
03.01.81	4608	0.558	0.091	opt. spec., Balmer & He I dominate, P Cygni profiles, He II λ 4686 strong	4
04.01.81	4609	0.561	0.151	opt. phot., V=14.71-14.78	4
05.01.81	4610	0.563	0.211	opt. phot., V=14.77-14.84	4
06.01.81	4611	0.566	0.271	opt. phot., V=14.92-14.96	4
10.01.81	4615	0.575	0.511	opt. spec., B~15, residual activity, weak He II λ 4686	4
11.01.81	4616	0.577	0.571	opt. spec., B~15, residual activity, weak He II λ 4686	4
12.01.81	4617	0.580	0.631	opt. spec., B~15, residual activity, weak He II λ 4686	4
13.01.81	4617.94	0.582	0.688	UV spec., weak or absent emiss.	3
13.01.81	4618	0.582	0.691	UV spec., P Cygni profiles, absorp. lines, B~15	4
13.01.81	4618.04	0.582	0.694	UV spec., weak or absent emiss.	3
28.01.81	4633	0.618	0.593	opt. spec., He II λ 4686 emiss., weak H β absorp.	5
30.01.81	4635	0.623	0.713	opt. phot., V=15.12	5
31.01.81	4636	0.625	0.773	opt. phot., V=15.16	5
01.02.81	4637	0.627	0.833	opt. phot., V=15.28	5
02.02.81	4638	0.630	0.893	opt. phot., V=15.05	5
29.04.81	4723.64	0.833	0.038	UV spec., C IV λ 1550 emiss.	3
29.04.81	4723.67	0.833	0.040	UV spec.	3
29.04.81	4723.70	0.833	0.041	UV spec., C IV λ 1550 emiss.	3
29.04.81	4723.73	0.833	0.043	UV spec.	3
29.04.81	4723.76	0.834	0.045	UV spec., C IV λ 1550 emiss.	3
29.04.81	4723.78	0.834	0.046	UV spec.	3
29.04.81	4723.80	0.834	0.047	UV spec., C IV λ 1550 emiss.	3
29.04.81	4723.83	0.834	0.049	UV spec.	3
29.04.81	4723.86	0.834	0.051	UV spec., C IV λ 1550 emiss.	3
29.04.81	4724	0.834	0.059	UV spec., B=12.70-12.81, dominated by numerous strong broad emiss. lines	4
22.07.81	4808	0.034	0.106	opt. phot., V=13.02	4
24.07.81	4810	0.038	0.226	opt. spec., B~13, Balmer & He II λ 4686 emiss.	4
08.10.81	4885	0.217	0.731	IR phot., J=13.63	2
09.10.81	4886	0.219	0.791	IR phot., J=13.43	2
13.11.81	4922	0.305	0.954	opt. phot., V~12.4	6
01.12.81	4940	0.347	0.035	opt. phot., V~12.4	6
17.12.81	4956	0.385	0.997	opt. phot., V~12.6	6
18.12.81	4957.04	0.388	0.059	UV spec., C IV λ 1550 emiss.	3
18.12.81	4957.10	0.388	0.063	UV spec.	3
01.01.82	4972	0.423	0.958	opt. phot., V~12.8	6
10.03.82	5038.74	0.582	0.967	UV spec.	3
10.03.82	5038.82	0.582	0.972	UV spec., C IV λ 1550 emiss.	3
12.03.82	5040.87	0.587	0.095	UV spec.	3
12.03.82	5040.92	0.587	0.098	UV spec., C IV λ 1550 emiss.	3
14.03.82	5042.81	0.592	0.212	UV spec.	3
14.03.82	5042.85	0.592	0.214	UV spec., C IV λ 1550 emiss.	3
24.03.82	5052.70	0.615	0.806	UV spec.	3
24.03.82	5052.74	0.615	0.808	UV spec., C IV λ 1550 emiss.	3
24.03.82	5053.30	0.617	0.842	opt. spec. & phot., V~14.5, He II & H emiss., weak P Cyg., H & He I absorp.	7
25.03.82	5054.30	0.619	0.902	opt. spec. & phot., V~14.4	7
26.03.82	5054.68	0.620	0.925	UV spec., C IV λ 1550 emiss.	3
26.03.82	5054.74	0.620	0.928	UV spec.	3
26.03.82	5055.29	0.621	0.961	opt. spec. & phot., V~14.5, He II λ 4686, H & He I emiss., P Cygni profiles	7
28.03.82	5057.27	0.626	0.080	opt. spec. & phot., V~13.5	7
29.03.82	5058.26	0.628	0.140	opt. spec. & phot., V~14.05	7
09.05.82	5099	0.725	0.587	IR phot., J=13.97	2
10.05.82	5100	0.728	0.647	opt. phot., V~15.2	8
17.05.82	5107	0.744	0.068	opt. phot., V=13.3	8
17.05.82	5107	0.744	0.068	opt. phot., V=13.36-13.56	7
30.05.82	5120	0.775	0.849	opt. phot., V~15	8
05.07.82	5156.38	0.862	0.034	UV spec.	3
05.07.82	5156.42	0.862	0.037	UV spec., C IV λ 1550 emiss.	3

Date	JD+2440000	ϕ_{421}	ϕ_{16}	Notes on Observations	Ref
07.10.82	5250	0.084	0.659	opt. phot., mean V=14.84	8
26.11.82	5300	0.203	0.662	opt. phot., V~14.85	9
08.12.82	5312	0.231	0.383	opt. spec., Balmer absorp.	10
13.12.82	5317	0.243	0.684	opt. spec.	10
20.01.83	5355	0.334	0.966	opt. spec.	10
21.01.83	5356	0.336	0.026	opt. spec.	10
22.01.83	5357	0.338	0.087	opt. spec.	10
23.01.83	5358	0.341	0.147	opt. spec.	10
31.01.83	5365	0.357	0.567	IR phot., J=15.42	2
01.02.83	5367	0.362	0.687	opt. spec., Balmer absorp., variability in H β & H γ	10
02.02.83	5368	0.364	0.747	opt. spec.	10
06.03.83	5400	0.441	0.670	opt. phot., V~14.84	8
08.03.83	5402.32	0.446	0.809	opt. spec., H absorp., H β emiss.	7
09.03.83	5403.30	0.448	0.868	opt. spec. & phot., V=14.83	7
10.03.83	5404.30	0.451	0.928	opt. spec. & phot., V=14.83	7
11.03.83	5405.32	0.453	0.989	opt. spec. & phot., V=14.89	7
12.03.83	5406.42	0.456	0.055	opt. spec. & phot., V=14.94	7
13.03.83	5407.32	0.458	0.109	opt. spec. & phot., V=15.15	7
14.03.83	5408.35	0.460	0.171	opt. spec. & phot., V=14.80	7
15.03.83	5409.33	0.463	0.230	opt. spec. & phot., V=14.50	7
16.03.83	5410.29	0.465	0.288	opt. spec. & phot., V=14.79	7
17.03.83	5411.28	0.467	0.347	opt. spec. & phot., V=14.95	7
18.03.83	5412.34	0.470	0.411	opt. spec. & phot., V=14.47	7
20.03.83	5414.29	0.474	0.528	opt. spec. & phot., V=14.78	7
21.03.83	5415.28	0.477	0.588	opt. spec. & phot., V=14.97	7
11.05.83	5466	0.597	0.635	opt. spec. & phot., mean V=14.8, H β , H γ absorp.	10
12.05.83	5467	0.600	0.695	opt. spec. & phot., mean V=14.8	10
16.05.83	5471	0.609	0.935	opt. spec. & phot., mean V=14.8	10
09.08.83	5555	0.809	0.981	opt. spec., strong broad He II & H emiss.	11
15.11.83	5653.69	0.043	0.910	opt. spec., H absorp., weak He II emiss.	1
16.11.83	5654.62	0.046	0.966	opt. spec.	1
17.11.83	5655.72	0.048	0.032	opt. spec.	1
17.11.83	5656	0.049	0.049	opt. phot., V~14.8	9
25.11.83	5663.86	0.068	0.521	opt. spec.	1
26.11.83	5664.82	0.070	0.579	opt. spec.	1
27.11.83	5665.79	0.072	0.637	opt. spec.	1
29.11.83	5667.84	0.077	0.760	opt. spec.	1
30.11.83	5668.86	0.079	0.821	opt. spec.	1
01.12.83	5669.85	0.082	0.881	opt. spec.	1
02.12.83	5670.84	0.084	0.940	opt. spec.	1
28.01.84	5727.57	0.219	0.348	opt. spec.	1
29.01.84	5728.56	0.221	0.408	opt. spec.	1
30.01.84	5729.60	0.224	0.470	opt. spec.	1
31.01.84	5730.59	0.226	0.530	opt. spec.	1
01.02.84	5731.60	0.229	0.590	opt. spec.	1
02.02.84	5732.57	0.231	0.649	opt. spec.	1
03.02.84	5733.58	0.233	0.709	opt. spec.	1
04.02.84	5734.68	0.236	0.775	opt. spec.	1
05.02.84	5735.67	0.238	0.835	opt. spec.	1
08.22.85	6300	0.579	0.737	opt. phot., V~14.77	9
29.01.91	8286	0.299	0.045	spectropolarimetry, strong He II λ 4686 & H β emiss.	12
04.03.91	8320	0.379	0.087	spec. & phot., R=15.43, H emiss., no He II λ 4686 emiss.	12
06.03.91	8322	0.384	0.207	polarimetry	12
25.11.91	8586	0.011	0.067	spectropolarimetry, no emiss.	12
27.11.91	8588	0.016	0.187	spectropolarimetry	12
09.07.92	8813	0.551	0.704	ROSAT (0.1-2.4 keV), 1×10^{35} erg s $^{-1}$	13
23.07.93	9192	0.451	0.472	ROSAT (0.1-2.4 keV), 3×10^{34} erg s $^{-1}$	13
07.10.93	9268	0.632	0.038	ROSAT (0.1-2.4 keV), 1×10^{36} erg s $^{-1}$	13
04.11.93	9296	0.699	0.720	ROSAT (0.1-2.4 keV), 6×10^{34} erg s $^{-1}$	13
01.12.93	9323	0.763	0.342	ROSAT (0.1-2.4 keV), 7×10^{34} erg s $^{-1}$	13
05.06.94	9509	0.205	0.516	ROSAT (0.1-2.4 keV), $\lesssim 1 \times 10^{35}$ erg s $^{-1}$	13
06.07.94	9540	0.278	0.378	ROSAT (0.1-2.4 keV), 4×10^{34} erg s $^{-1}$	13
29.11.94	9686.20	0.626	0.161	opt. spec., strong H emiss., no He II λ 4686 emiss.	14
01.12.94	9688.05	0.630	0.272	opt. spec.	14
31.01.95	9749	0.775	0.934	opt. phot., V~14.7-15.1	14
03.02.95	9752	0.782	0.114	ASCA (2-10 keV), 5.5×10^{36} erg s $^{-1}$	14
07.02.95	9756	0.792	0.354	opt. phot., V~14.7-15.1	14

Table 1: Archival observations of A0538–66 taken from 1980–1995. ϕ_{421} is the phase of each observation on the 421 d cycle. ϕ_{16} are the phases for the observations using the newly determined best-fit period and ephemeris, $P = 16.6460$ d and $T_0 = \text{MJD } 2441443.1432$, respectively. See McGowan & Charles (2002)¹⁵ for details.

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